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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,017	04/23/2004	Vincent Bourget	Q81187	7658

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EXAMINER

PAK, SUNG H

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/830,017	Applicant(s) BOURGET, VINCENT	
	Examiner Sung H. Pak	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,16 and 33-71 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,2,16 and 33-71 is/are rejected.
 7) ☒ Claim(s) 38 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Applicant's amendment received on 1/26/2006 has been entered. All pending claims have been carefully considered by the examiner. In view of the newly added limitations and claims, a new ground of rejection is provided in this office action.

Claim Objections

Claim 38 is objected to because of the following informalities: at line 2, the claim recites "a solid (non-perforated)". The terms "solid" and "non-perforated" have separate meaning and scope. As currently recited, it is unclear whether the claim limitation should be interpreted as "solid and non-perforated" or "solid or non-perforated". The claim limitation should be changed such that the scope of the limitation is clearer. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 16, 33, 36-38, 40-41, 47-48, 51-66, 70-71 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamei et al (US 6,011,887).

Kamei discloses an optical device with all the limitations set forth in the claims, including: a central reinforcing element (11 & 12- Fig. 3); a layer of optical fibers surrounding

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the central reinforcing element (13- Fig. 3); a buffer layer surrounding the layer of optical fibers (14- Fig. 3); an outer sheath surrounding the buffer layer (162- Fig. 3); wherein the layer of optical fibers is a single layer of bare optical fibers surrounding the central reinforcement element such that the bare optical fibers are pressed into contact against the central reinforcing element and mechanically coupled to the central reinforcing element (Fig. 3 clearly shows mechanical coupling of fibers to the central reinforcing member; further, the use of a presser winding '15' indicates that the fibers are pressed against the central reinforcing member);

wherein the majority of the volume of the buffer layer is constituted by a material that is both solid and flexible (column 3 lines 50-55: resin is both solid and flexible);

wherein the relative longitudinal movements of optical fibers are reduced because of the mechanical coupling (due to the presser winding);

wherein the buffer layer withstands radial flattening without exerting damaging mechanical stress on the optical fibers (due to the flexible solid nature of the resin);

wherein the cable includes a separator tape disposed around the buffer layer and in contact with the buffer layer (presser winding '15' in Fig. 3);

wherein the solid and flexible material of the buffer layer has a Young's modulus at 25°C which is less than 100 MPa (Styrene-butadiene rubber has modulus around 50-100 MPa);

wherein the buffer layer is constituted by a single material (see Fig. 1 and the discussion of the prior art structure, which does not contain magnetic powder; column 1 lines 39-55);

wherein the central reinforcing element comprises a central core (11- Fig. 3); surrounded by outer sheathing (12- Fig. 3), in that the outer sheathing is mechanically coupled to the central

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core by contact with the central core (Fig. 3) and in that the modulus of elasticity of the outer sheathing is less than that of the central core (column 1 lines 40-48);

wherein the presser winding, buffer layer and the outer sheath protect optical fibers from any liquid, viscous or semi-liquid element (column 1 lines 48-51).

It is noted that the above noted claims contain functional language as discussed. While the features of apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone. MPEP 2114. Since the examiner has determined that the recited functions can be performed by the prior art structure, all the functional limitations of the pending claims are fully anticipated by the cited prior art. See also *In re Swinehart*, 169 USPQ 226 (CCPA 1971); *In re Schreiber*, 44 USPQ2d 1429 (Fed. Cir. 1997).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 34-35, 39, 42-46, 49-50, 67-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamei et al (US 6,011,887).

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Regarding claims 34-35, 46, Kamei discloses an optical device with limitations set forth in the claims as discussed above, except it does not explicitly teach the presser winding or optical fibers that are disposed in helical manner.

However, helically winding presser winding member is well known and common in the fiber optic cable art. The method of helically winding provides a well known advantage of being able to cover fiber optic cable structure with even and secure coverage. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Kamei to have a helically winding presser winding.

Regarding claim 39, Kamei discloses an optical device with limitations set forth in the claims as discussed above, except it does not explicitly teach the styrene-butadiene material of the buffer layer being a foam.

However, styrene-butadiene foams are well known and common in the art. Such foams are considered advantageous because it provides a light weight styrene-butadiene structure capable of providing desired elasticity (modulus) for providing effective protection for the optical fiber structures. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Kamei to have styrene-butadiene that is foam.

Regarding claims 42-45, 49-50, 67-69, Kamei discloses an optical device with limitations set forth in the claims as discussed above, except it does not explicitly teach radial thickness of the buffer layer that is between 0.15 mm to 0.4 mm. However, the Federal Circuit Court has

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determined that “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Since the general conditions of the claim including all structural components are anticipated by the Kamei reference, the optimal range of the buffer layer thickness is prima facie obvious. One of ordinary skill in the art would have been motivated to modify the device of Kamei to have the buffer layer with thickness between 0.15 mm to 0.4 mm in order to provide a protective layer with sufficient thickness to provide effective mechanical protection for optical fibers. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Kamei to have the buffer layer with thickness between 0.15 mm to 0.4 mm.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571)272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak
Primary Patent Examiner
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